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Effects of cracking and coke formation on the selectivity of iron oxide catalysts in the dehydrogenation of methylbutenes to isoprene

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Abstract

The contributions of cracking and coke formation reactions to a decrease in the selectivity of domestic and imported catalysts for the dehydrogenation of methylbutenes (isopentanes and isoamylenes) into isoprene have been determined. It has been found that hydrothermal treatment in industrial reactors favorably affected an increase in the catalytic characteristics of a domestic iron oxide catalyst for dehydrogenation. The conditions for catalyst activation have been optimized with respect to the temperature and duration of hydrothermal treatment. © 2011 Pleiades Publishing, Ltd.

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